Total Suspended Solids

Total suspended solids, or TSS, refers to particles in water exceeding 2 microns in size. Anything smaller than 2 microns is considered a total dissolved solid (TDS). Basically, if it floats or is suspended in water it is a TSS. Examples include sand, silt, leaves, algae, pieces of toilet paper and other organic material. The majority of TSS is comprised of inorganic materials, i.e., those materials that do not contain carbon. However, decaying plant or animal material can also be considered TSS since small organic particles can be released into water and suspended in the water column where they may float on the surface or remain suspended between the surface and the bottom. The more TSS a water body has, the less clear the water will be.

TSS is a simple laboratory measurement and the most common CSO overflow parameter, meaning any solids suspended in the water column, and the best way to evaluate solids emanating from a WWTP or other CSO. If TSS is high, it indicates a high amount of waste in the receiving stream. Normally, waters that have high TSS – usually during a wet weather event – will have siltation issues when the TSS settles out.

While sediment and TSS are related, they are also different. Sediment is any material that accumulates on a stream bottom and is normally sand, gravel, or silt. States often list streams as impaired due to siltation where there are excess streambed sediments such as in Paxton Creek. Sediment is a primary stormwater pollution parameter and is organic. The difference is sediment tends to settle out and float to the bottom of the stream whereas TSS remains in the water column for a longer period of time.